

**This is a DRAFT regulation; it reflects the Department of Health Services' most current thinking on the regulation of recharge of groundwater with recycled water. We would appreciate any informal comments you might have on this draft; they can be emailed to Bob Hultquist: [bhultqui@dhs.ca.gov](mailto:bhultqui@dhs.ca.gov).**

Title 22, CALIFORNIA CODE OF REGULATIONS  
DIVISION 4. ENVIRONMENTAL HEALTH  
CHAPTER 3. RECYCLING CRITERIA

ARTICLE 1. DEFINITIONS

**Section 60301.080. 24-hour Composite Sample.**

"24-hour composite sample" means a combination of no fewer than eight individual samples obtained at equal time intervals during a 24-hour period, such that the volume of each individual sample is proportional to the flow at the time of sampling.

NOTE: Authority cited: Section 208, Health and Safety Code and Section 13521, Water Code. Reference: Section 13520, Water Code.

**Section 60301.090. Applied Recycled Water.**

"Applied recycled water" means recycled water that has been spread onto or injected into the ground.

NOTE: Authority cited: Section 208, Health and Safety Code and Section 13521, Water Code. Reference: Section 13520, Water Code.

**Section 60301.120. Aquifer.**

"Aquifer" means a saturated, permeable geologic unit that can transmit water under ordinary hydraulic gradients.

NOTE: Authority cited: Section 208, Health and Safety Code and Section 13521, Water Code. Reference: Section 13520, Water Code.

**Section 60301.370. Groundwater.**

"Groundwater" means water below the land surface.

NOTE: Authority cited: Section 208, Health and Safety Code and Section 13521, Water Code. Reference: Section 13520, Water Code.

**Section 60301.380. Groundwater Basin.**

"Groundwater basin" means a subsurface structure having the character of a basin with respect to the collection, retention, and outflow of water or an aquifer or system of aquifers, whether basin-shaped or not, that has reasonably well defined boundaries and more or less definite areas of recharge and discharge."

NOTE: Authority cited: Section 208, Health and Safety Code and Section 13521, Water Code. Reference: Section 13520, Water Code.

**Section 60301.610. Mound.**

"Mound" means a localized, temporary elevation in a water table, above the surrounding regional groundwater level, that builds up as a result of the localized downward percolation of waters that have been discharged to a spreading area.

NOTE: Authority cited: Section 208, Health and Safety Code and Section 13521, Water Code. Reference: Section 13520, Water Code.

**Section 60301.665. Planned Groundwater Recharge Reuse Project (PGRRP).**

"Planned groundwater recharge reuse project (PGRRP)" means a project using recycled water designed, constructed, or operated for the purpose of recharging by infiltration or injection of recycled water a groundwater basin designated in the Water Quality Control Plan, as defined in Water Code section 13050(j), for use as a source of domestic water supply.

NOTE: Authority cited: Section 13521, Water Code.

Reference: Sections 13520, 13521, and 13050(j), Water Code.

**Section 60301.690. Project Sponsor.**

"Project sponsor" means an agency or agencies that receives water recycling requirements for a PGRRP from a RWQCB.

NOTE: Authority cited: Section 208, Health and Safety Code and Section 13521, Water Code. Reference: Section 13520, Water Code.

**Section 60301.693. Public Water System.**

"Public water system" means a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year. A public water system includes the following:

(a) Any collection, treatment, storage, and distribution facilities under control of the operator of the system which are used primarily in connection with the system.

(b) Any collection or pretreatment storage facilities not under the control of the operator that are used primarily in connection with the system.

(c) Any water system that treats water on behalf of one or more public water systems for the purpose of rendering it safe for human consumption.

NOTE: Authority cited: Section 208, Health and Safety Code and Section 13521, Water Code. Reference: Section 116275(h), Health and Safety Code.

**Section 60301.695. Recycled Water.**

“Recycled water” means water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur and is therefore considered a valuable resource.

NOTE: Authority cited: Section 208, Health and Safety Code and Section 13521, Water Code. Reference: Section 13050, Water Code.

**Section 60301.705. Recycled Water Contribution (RWC).**

“Recycled water contribution (RWC)” means the fraction of the total PGRRP recharge water that is of recycled water origin.

NOTE: Authority cited: Section 208, Health and Safety Code and Section 13521, Water Code. Reference: Section 13520, Water Code.

**Section 60301.720. Regional Groundwater Level.**

"Regional groundwater level" means the water table that would exist in the absence of the PGRRP.

NOTE: Authority cited: Section 208, Health and Safety Code and Section 13521, Water Code. Reference: Section 13520, Water Code.

**Section 60301.770. Reverse Osmosis.**

"Reverse osmosis" means a pressure-driven membrane process in which the pressure applied to the salt solution exceeds its osmotic pressure against a semipermeable membrane, thereby forcing water (permeate) through the membrane and leaving salts and low-molecular solutes (brine) behind.

NOTE: Authority cited: Section 208, Health and Safety Code and Section 13521, Water Code. Reference: Section 13520, Water Code.

**Section 60301.775. RWQCB.**

“RWQCB” means Regional Water Quality Control Board.

NOTE: Authority cited: Section 208, Health and Safety Code and Section 13521, Water Code. Reference: Section 13520, Water Code.

**Section 60301.810. Spreading Area.**

"Spreading area" means an area where water is applied for purposes of recharging the groundwater.

NOTE: Authority cited: Section 208, Health and Safety Code and Section 13521, Water Code. Reference: Section 13520, Water Code.

**Section 60301.840. Subsurface Injection.**

"Subsurface injection" means the controlled insertion of water below the ground surface resulting in the recharge of a groundwater basin, and includes direct injection into the saturated zone and injection into the vadose zone.

NOTE: Authority cited: Section 208, Health and Safety Code and Section 13521, Water Code. Reference: Section 13520, Water Code.

**Section 60301.850. Surface Spreading.**

"Surface spreading" means the controlled application of water to the spreading area resulting in the recharge of a groundwater basin.

NOTE: Authority cited: Section 208, Health and Safety Code and Section 13521, Water Code. Reference: Section 13520, Water Code.

**Section 60301.860. Total Nitrogen.**

"Total nitrogen" means the summation of ammonia, nitrite, nitrate, and organic nitrogen, expressed in units of nitrogen.

NOTE: Authority cited: Section 208, Health and Safety Code and Section 13521, Water Code. Reference: Section 13520, Water Code.

**Section 60301.870. Total Organic Carbon (TOC).**

"Total organic carbon (TOC)" means the oxidizable organic carbon present in the recycled water measured by an approved laboratory pursuant to subsection 64415(a) using an approved analytical method pursuant to 40 Code of Federal Regulations subsection 141.142(b).

NOTE: Authority cited: Section 208, Health and Safety Code and Section 13521, Water Code. Reference: Section 13520, Water Code.

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**Section 60302. Source Specifications.**

The requirements in this chapter shall apply only to recycled water ~~from sources that contain domestic waste, in whole or in part, of municipal wastewater origin.~~

NOTE: Authority cited: Section 13521, Water Code.

Reference: Sections 13520 and 13521, Water Code.

ARTICLE 5.1. PLANNED GROUNDWATER RECHARGE REUSE PROJECTS

**~~Section 60320. Groundwater Recharge.~~**

~~(a) Reclaimed water used for groundwater recharge of domestic water supply aquifers by surface spreading shall be at all times of a quality that fully protects public health. The State Department of Health Services' recommendations to the Regional Water Quality Control Boards for proposed groundwater recharge projects and for expansion of existing projects will be made on an individual case basis where the use of reclaimed water involves a potential risk to public health.~~

~~(b) The State Department of Health Services' recommendations will be based on all relevant aspects of each project, including the following factors: treatment provided; effluent quality and quantity; spreading area operations; soil characteristics; hydrogeology; residence time; and distance to withdrawal.~~

~~(c) The State Department of Health Services will hold a public hearing prior to making the final determination regarding the public health aspects of each groundwater recharge project. Final recommendations will be submitted to the Regional Water Quality Control Board in an expeditious manner.~~

Note: Authority cited: Section 208, Health and Safety Code and Section 13521, Water Code.

Reference: Section 13520, Water Code.

**Section 60320. Applicability and General Requirements.**

(a) This article shall apply only to planned groundwater recharge reuse projects (PGRRPs).

(b) This article shall not apply to a wastewater disposal project that incidentally results in treated wastewater reaching groundwater.

(c) All recycled water used for PGRRPs shall be from a wastewater collection system operating under a comprehensive industrial pretreatment and pollutant source control program that includes contaminants specified by the Department based on its review of the engineering report. The program shall be approved by the RWQCB for the control of discharge of toxic wastes from point sources.

(d) Each project sponsor shall establish a financial assurance mechanism to cover:

(1) The costs associated with any PGRRP violation of this chapter or PGRRP impact that has resulted in, or is anticipated to result in, an increase of any of the contaminants specified in sections 60320.010, 60320.020, 60320.030, and 60320.040 in a drinking water supply; and

(2) Any and all financial burdens to downgradient drinking water sources directly resulting from the PGRRP operation.

(e) The State Department of Health Services will hold a public hearing for each PGRRP prior to submitting its recommendations for the initial permit to the RWQCB, and at any time an increase in RWC has been proposed.

NOTE: Authority cited: Section 208, Health and Safety Code and Section 13521, Water Code. Reference: Section 13520, Water Code.

**Section 60320.010. Control of Pathogenic Microorganisms.**

(a) For each PGRRP, the wastewater shall be treated to meet the following:

(1) The definition of filtered wastewater, pursuant to section 60301.320; and

(2) The definition of disinfected tertiary recycled water, pursuant to section 60301.230.

(b) If the wastewater being used for recharge does not meet the criteria in sections 60301.230 and 60301.320, pursuant to section 60321 (Sampling and Analysis), the PGRRP shall:

(1) Suspend recharge of the recycled water until the criteria is met, and

(2) Inform the Department and the RWQCB in the next monthly report.

(c) For a surface spreading project, the applied recycled water shall be retained underground for a minimum of six months prior to extraction for use as a drinking water supply, and shall not be extracted within 500 feet of a point of recharge.

(d) For a subsurface injection project, the applied recycled water shall be retained underground for a minimum of nine months prior to extraction for use as a drinking water supply, and shall not be extracted within 2000 feet of a point of recharge.

NOTE: Authority cited: Section 208, Health and Safety Code and Section 13521, Water Code. Reference: Section 13520, Water Code.

**Section 60320.020. Control of Total Nitrogen.**

(a) The total nitrogen concentration of the recycled water shall not exceed X\* mg/L as nitrogen unless the project sponsor demonstrates that the X\* mg/L standard is consistently met in the applied recycled water prior to its reaching the interface of the mound and the regional groundwater table.

(b) Each week the PGRRP shall collect and analyze a grab or 24-hour composite sample of:

(1) Recycled water, or

(2) Applied recycled water prior to its reaching the interface of the mound and the regional groundwater table, if the PGRRP has been approved for mound monitoring, pursuant to section 60320.050.

(c) The PGRRP sponsor shall require the laboratory to notify the PGRRP within 24 hours of completing the analysis of a sample that contains total nitrogen at a level greater than X\* mg/L;

(d) Each week, the PGRRP shall determine compliance as follows:

(1) Within 48 hrs of being informed by the laboratory of a total nitrogen result greater than X\* mg/L, the PGRRP shall collect and analyze a confirmation sample; and

(2) If the average of the initial and confirmation samples is greater than X\* mg/L, the PGRRP shall:

(A) Suspend recharge of the recycled water,

(B) Investigate the causes and make appropriate corrections, and

(C) Within 48 hrs of receiving the confirmation sample result, notify the Department and RWQCB.

\* Previous drafts have used 10 mg/L because all forms of nitrogen can convert to nitrate in groundwater and the nitrate standard is 10 mg/L as nitrogen in drinking water. We now have a 1 mg/L nitrite standard and the Department is unsure what total nitrogen limit in recharge water is necessary to assure that the nitrite standard will not be exceeded as a result of any PGRRP. A preliminary evaluation of the issue suggests that 1 mg/L may be necessary. X could be anything from 1 to 10 mg/L in the final criteria.

NOTE: Authority cited: Section 208, Health and Safety Code and Section 13521, Water Code. Reference: Section 13520, Water Code.

**Section 60320.030. Control of Regulated Contaminants and Physical Characteristics.**

(a) The recycled water shall be in compliance with the following:

(1) Primary maximum contaminant levels specified in chapter 15: Inorganic chemicals in table 64431-A (except for nitrogen compounds); radionuclides in table 4, section 64443; organic chemicals in table 64444-A; and new/pending federal & state regs (e.g., arsenic, uranium, DBPs, radon);

(2) Action level for lead in section 64678, chapter 15;

(3) Applicable water quality objectives specified in the Water Quality Control Plan established by the RWQCB; and

(4) Secondary MCLs for the constituents and characteristics in tables 64449-A and B (“Upper” levels) in chapter 15.

(b) The recycled water shall not exceed any public health goal (PHG) for a contaminant, or the level of the contaminant in the receiving groundwater, whichever is higher, unless the Department approves a higher level based on a review that includes the following:

(1) Source(s) of contaminant(s);

(2) Level(s) of contaminant(s) in alternative recharge water(s);

(3) Level(s) of contaminant(s) in public drinking water source(s) that are downgradient of the PGRRP;

(4) Feasibility of measuring the contaminant(s) levels of detection;

(5) Estimated impact on the groundwater basin in terms of overall water quality and supply;

(6) Estimated impact on regional water quality and supply;

(7) Applicability and effectiveness of soil and aquifer treatment;

(8) Feasibility of treatment technology available for contaminant(s) removal from drinking water sources if contamination should occur;

(9) Acceptance of the PGRRP by the downgradient public water systems if one or more PHG(s) is not met; and

(10) Overall economic feasibility of PGRRP (downgradient public water system costs and recycled water costs) and alternatives.

(c) On a quarterly basis at regular intervals, the PGRRP shall collect 24-hour composite or grab samples. At the end of each calendar year, the PGRRP shall determine compliance with paragraphs (a)(1) through (3) and subsection (b) by averaging the year’s results. If the recycled water is out of compliance, the PGRRP shall submit a report to the Department and the RWQCB that describes the reasons and the corrective actions taken.

(d) Each year, the PGRRP shall collect a representative grab sample to determine compliance with subsection (a)(4); if the single sample result (or average of samples collected during the year, if more than one) exceeds a secondary MCL, the PGRRP shall inform the Department and RWQCB in the next monthly report.

NOTE: Authority cited: Section 208, Health and Safety Code and Section 13521, Water Code. Reference: Section 13520, Water Code.

**Section 60320.040. Control of Nonregulated Contaminants.**

(a) The TOC of the filtered wastewater shall comply with the following:

(1) Not exceed a TOC level of 0.016 g/L for more than two consecutive days;



(2) Each day, the PGRRP shall collect and analyze a 24-hour composite sample before any reverse osmosis treatment;

(3) If the TOC in the filtered wastewater exceeds 0.016 g/L for more than two consecutive days, the PGRRP shall suspend recharge of recycled water until the TOC is less than 0.01 g/L.

(b) Each PGRRP shall comply with the following TOC criteria, as applicable:

(1) For a PGRRP using surface spreading, the recycled water TOC level shall be less than 0.001 g/L divided by the maximum average RWC specified by the Department, or be treated by reverse osmosis to do so.

(2) For a PGRRP using surface spreading that has been approved for mound monitoring pursuant to section 63020.050:

(A) The recycled water TOC level shall be less than 0.0015 g/L divided by the maximum average RWC specified by the Department, or be treated by reverse osmosis to do so; and

(B) The applied recycled water TOC level measured in the mound shall be less than 0.001 g/L divided by the maximum average RWC specified by the Department.

(3) For a PGRRP using direct injection, the entire wastewater stream shall be treated with reverse osmosis and the recycled water TOC shall be less than 0.001 g/L divided by the maximum average RWC specified by the Department.

(c) To determine compliance with subsection (b), each day, the PGRRP shall:

(1) Collect a 24-hour composite sample for TOC analysis, except that if 100 per cent of the wastewater stream is treated by reverse osmosis, the PGRRP may collect a grab sample;

(2) Determine compliance and take action as follows:

(A) If a 30-day running average of the TOC samples exceeds the applicable criteria, the PGRRP shall submit a report to the Department and RWQCB within 60 days that describes the reasons for the violation and the corrective actions that have been taken to avoid future violations; and

(B) If the 30-day running average of the TOC samples has not met the applicable criteria for more than 14 consecutive days, the PGRRP shall suspend recharge of the recycled water until the criteria are met and within 7 days of the suspension, notify the Department and the RWQCB.

(d) The PGRRP shall comply with the criteria for the daily-running-average RWC (average RWC) as follows:

(1) The average RWC in each aquifer shall not exceed:

(A) 0.50 unless the Department has approved an alternative maximum average RWC pursuant to section 60320.095, and

(B) The maximum average RWC specified by the Department.

(2) Each day, the average RWC shall be calculated by dividing the total volume of recycled water recharged during the preceding 2000 days by the total volume of water recharged during that period at the recharge facilities used by the PGRRP.

(A) If the average RWC does not meet the criteria in subparagraph (d)(1)(A), the PGRRP shall suspend recharge of the recycled water until the criteria is met and within 7 days of the suspension, notify the Department and the RWQCB.

(B) If the average RWC does not meet the criteria in subparagraph (d)(1)(B), the PGRRP shall notify the Department and RWQCB within 7 days and submit a report to both within 60 days describing the reason and corrective actions taken to avoid future violations.

(e) The PGRRP shall ensure that no groundwater is extracted for use as a drinking water supply from an aquifer within which the average RWC is higher than that specified by the Department, based on its review of the PGRRP's engineering report.

(f) The PGRRP shall conduct the following monitoring and report any positive results to the Department and the RWQCB in the next monthly report:

(1) Each quarter, as a minimum, the PGRRP shall sample and analyze the recycled water for the unregulated chemicals in table 64450, chapter 15, Priority Pollutants (xxxxxxxxxxxxxx), and for those chemicals with state action levels that the Department has specified, based on a review of the PGRRP engineering report and the affected groundwater basin(s); and

(2) Each year, the PGRRP shall monitor the recycled water for endocrine disrupting chemicals and pharmaceuticals specified by the Department, based on a review of the PGRRP engineering report and the affected groundwater basin(s).

NOTE: Authority cited: Section 208, Health and Safety Code and Section 13521, Water Code. Reference: Section 13520, Water Code.

#### **Section 60320.050. Mound monitoring for TOC and total nitrogen**

To obtain approval for mound monitoring of applied recycled water, a PGRRP shall demonstrate the following to the Department:

(a) That it can continuously track the regional groundwater level and the thickness of the mound at the point of sampling;

(b) That the mound is of sufficient thickness to enable samples to be collected without drawing water from below the regional groundwater table;

(c) That the sampling system can obtain mound samples regardless of change in the regional groundwater table elevation;

(d) That the location of the mound is such that it is feasible to reach it with a monitoring well;

(e) That samples can be collected continuously whenever a mound of applied recycled water is present;

(f) That the samples represent applied recycled water and not a comingling of applied recycled water and other waters used to recharge the groundwater basin; and

(g) That the proposed monitoring is representative of the applied recycled water throughout the mound underneath the entire spreading area.

NOTE: Authority cited: Section 208, Health and Safety Code and Section 13521, Water Code. Reference: Section 13520, Water Code.

**Section 60320.070. Monitoring Wells**

(a) As a minimum, each PGRRP shall site and construct monitoring wells, as follows:

(1) At locations one-quarter and one-half of the distance (plus or minus 10%) from the recharge area to the nearest downgradient domestic water supply well; and

(2) Such that samples can be obtained independently from each aquifer potentially conveying the applied recycled water.

(b) Monitoring shall be conducted and reported as follows:

(1) Each quarter, as a minimum, samples shall be collected at each monitoring well;

(2) Each sample shall be analyzed for TOC, total nitrogen, constituents and characteristics in tables 64449-A and B, total coliform levels, and any water quality constituents specified by the Department based on the results of the recycled water monitoring conducted pursuant to this chapter; and

(3) If any of the monitoring results indicates that an MCL, a PHG, or a state action level has been exceeded or that coliforms are present, the PGRRP shall notify the Department and the RWQCB within 48 hours of receiving the result. Any positive findings shall be noted in the monthly report.

NOTE: Authority cited: Section 208, Health and Safety Code and Section 13521, Water Code. Reference: Section 13520, Water Code.

**Section 60320.080. Engineering Report.**

(a) Any project sponsor proposing a PGRRP shall submit an engineering report that includes an operations plan to the RWQCB and the Department. This report shall be prepared by an engineer registered in California and experienced in the fields of wastewater treatment and public water supply, in conjunction with a geologist experienced in hydrogeology and registered in California, and shall satisfy the requirement in section 60323(a).

(b) Proposed PGRRPs shall not recharge recycled water until the project sponsor submits a complete engineering report to the RWQCB and the Department and receives a permit from the RWQCB.

(c) For a PGRRP with a permit from the RWQCB as of the effective date of this regulation, the project sponsor shall submit an engineering report pursuant to this section to the RWQCB(s) and the Department within two years.

(d) The engineering report shall consist of a comprehensive investigation and evaluation of the PGRRP, impacts on the existing and potential uses of the impacted groundwater basin, and the proposed means for achieving compliance with sections 60320.010 through 60320.050 and

sections 60325 through 60355. The engineering report shall include, but not be limited to, the following:

(1) A description of the proposed PGRRP, including the anticipated TOC level and proposed RWC;

(2) An engineering plan of the recycling plant, transmission facilities, spreading basins/subsurface injection wells, and monitoring wells;

(3) A hydrogeologic study on the impacted groundwater basin that details the following:

(A) Impact of the recharge project on domestic groundwater sources;

(B) Description of any other existing or proposed PGRRPs that could impact the groundwater basin, and an estimate of the cumulative impact with and without the proposed PGRRP;

(C) Source, area of recharge, quantity, quality, and groundwater flow patterns of all aquifers in all impacted groundwater basins;

(D) The horizontal and vertical extent of the underground zone within which the applied recycled water has not been retained for the period of time or distance specified in subsection 60320.010(c) or (d), as applicable;

(E) The aquifer zone within which the RWC is higher than that proposed pursuant to paragraph (d)(1);

(G) For all wells that will be impacted by the proposed project

1. Use of each;

2. Identification of which well(s) is (are) subject to the highest RWC; and

3. The estimated or measured shortest recycled water retention time underground and horizontal separation, along with the methods for obtaining these;

(F) A description of the pre-project groundwater quality in the impacted groundwater basin;

(H) Quantitative descriptions of the aquifer transmissivity, groundwater movement, historic depth-to-groundwater, safe yield of the basin, influence of localized pumping, and usable storage capacity of the groundwater basin; and

(I) Description of any existing or anticipated flows into, or recharges of, the basin that could affect the quality of water in the monitoring wells or drinking water wells downgradient of the PGRRP.

(4) For the wastewater or treated wastewater proposed for use by the PGRRP, the results of one year of quarterly monitoring for TOC, BOD, SS, total coliforms, total nitrogen, all regulated and unregulated chemicals listed in sections 64431, 64439, 64441, 64443, 64444, 64449, and 64450, chapter 15, title 22, lead, Priority Pollutants (xxxxxxxxxxxxxxxxxxxx) and chemicals that have state action levels, as specified by the Department on the basis of vulnerability. +DBP standards;

(5) For any dilution waters proposed for use by the PGRRP, a quantitative and qualitative characterization of the water quality;

(6) Identification of the agency responsible for preventing the use of groundwater for drinking water within certain areas pursuant to paragraphs (d)(3)(D) and (E) and subsection 60320.040(f), and the mechanism that will be used;

(7) A contingency plan for diversion of recycled water when required pursuant to sections 60320.010(b)(1), 60320.020(d)((2)(A), and 60320.040(b)(3), (d)(2)(B), and (e)(2)(A);

(8) A description of how the data will be obtained and a sample calculation for RWC;

(9) Identification of the maximum average RWC (daily-running-average) for the PGRRP;

(10) For each month for the first twenty years of operation, the predicted RWC and the average RWC characteristic of each month along with all quantities and sources of water used to make the determinations;

(11) A plan for monitoring groundwater flow and water quality in the impacted groundwater basin, including a map of the locations of monitoring wells in the spreading basin and groundwater basin, details on their construction, and a rationale for their siting;

(12) A water quality monitoring plan for the recycled water and monitoring wells;

(13) A description of the industrial pretreatment and pollutant source control program, pursuant to section 60320 (c);

(14) A list of the endocrine disrupting chemicals and pharmaceuticals in the wastewater, as well as data on the levels where measurable;

(15) For PGRRPs using mound monitoring, a description of the mound monitoring program, including the demonstration in section 63020.050; and

(16) An analysis of the PGRRP impact that includes a determination of the possible violations or situations that could occur that might pose a risk to public health and a plan with associated costs for mitigating each along with the financial assurance mechanism that would be utilized. Such violations or situations include, but shall not be limited to:

(1) RWC;

(2) Minimum retention time; and

(3) MCL exceedance or microbiological problem in a drinking water supply well.

(e) The operations plan shall include, but not be limited to, the following:

(1) A description of the operational and management personnel, their qualifications, experience, and responsibilities;

(2) Routine testing procedures for the integrity of the membranes, if membrane technology is used;

(3) Routine maintenance and performance monitoring for the disinfection system;

(4) Maintenance and calibration schedules for all monitoring equipment, process alarm set points and response procedures for all alarms;

(5) Water blending plan, as applicable;

(6) Maintenance of injection and monitoring wells, and spreading basins;

(7) Vector control activities related to the PGRRP;

(8) A description of how the PGRRP will measure the retention time to demonstrate compliance with subsection 60320.010(c) or (d); and

(9) A list of the pesticides and herbicides used in the spreading facilities.

NOTE: Authority cited: Section 208, Health and Safety Code and Section 13521, Water Code. Reference: Section 13520, Water Code.

**Section 60320.090. Annual and Five Year Reports.**

(a) Every year, the project sponsor shall provide to the RWQCB, the Department, and all downgradient public drinking water systems a report that includes the following:

(1) Summary of compliance with the monitoring requirements and criteria in sections 60320.010, 60320.020, 60320.030, 60320.040, and 60320.050;

(2) Summary of any corrective actions taken as the result of violations and any suspensions of recharge of recycled water; including a schedule for making needed improvements.

(3) Any detections of monitored constituents and any observed trends in the monitoring wells.

(4) Information related to travel of recharge waters, i.e., the leading edge of the recharged water plume.

(5) A description of any changes in the operation of any unit processes or facilities, and

(6) A description of any anticipated changes, along with an evaluation of their expected impact on subsequent unit processes.

(b) Every five years, the project sponsor shall update the engineering report and submit it to the RWQCB and the Department. The update shall include, but not be limited to, a demonstration:

(1) That the maximum RWC pursuant to subsection 60320.040(b)(2) and (3) will not be exceeded,

(2) That the RWC used to determine the required treatment in subsection 60320.040(c), (d), or (e) can be determined,

(3) That the minimum retention time underground pursuant to subsection 60320.010(b) or (c) will be met, and

(4) Any inconsistencies between model prediction and observation and/or measurement and how they are being dealt with.

NOTE: Authority cited: Section 208, Health and Safety Code and Section 13521, Water Code. Reference: Section 13520, Water Code.

**Section 60320.095. Alternatives.**

(a) The project sponsor may apply to the Department to reduce the distance in subsection 60320.010(c) or (d) to as little as 200 feet, if the sponsor can demonstrate with tracer test results that the required retention time will be achieved at the proposed alternative distance.

(b) If a PGRRP can demonstrate that the applied recycled water has reached PGRRP monitoring wells for at least five years and the PGRRP has been in compliance with the required RWC, the project sponsor may apply to the RWQCB and the Department to increase the allowed maximum average RWC of 0.50. Based on its review of the engineering report, the Department may designate monitoring well sites in addition to those specified in section 60320.070 for conducting this demonstration. A comprehensive report of any demonstration in support of the application shall be prepared and signed by an engineer registered in California and experienced in the fields of wastewater treatment and public water supply; the report shall include, but not be limited to:

(1) PGRRP operations, monitoring, and compliance data;

(2) Additional analytical studies, as required by the Department, if needed to make the determination;

(3) Additional treatment studies, as required by the Department, if needed to make the determination;

(4) In vivo toxicity bioassays;

(5) Demonstration that the project sponsor can incorporate an additional barrier into the PGRRP that will be as effective as a maximum average RWC of 0.50 in protecting the downgradient drinking water sources from contamination by nonregulated and currently unidentified contaminants of potential public health concern. This demonstration could include a comparison of applied recycled water before and after the additional barrier;

(6) Advisory panel review of proposal;

(7) Validation of appropriate construction and siting of monitoring wells; and

(8) An updated engineering report.

NOTE: Authority cited: Section 208, Health and Safety Code and Section 13521, Water Code. Reference: Section 13520, Water Code.